

Application No. 10/679,888
Docket No. A4-1765
Amendment dated August 3, 2007
Response to Office Action dated April 3, 2007

REMARKS

As of the filing of the present Office Action, claims 1-33 were pending in the above-identified US Patent Application. In the Office Action, the Examiner rejected claims 15 and 16 under 35 USC §112, second paragraph, rejected claims 11, 12, 21, 22, 24, 26, and 30 under 35 USC §101, and rejected all of the claims under 35 USC §102 and/or §103. In response, Applicants have amended the specification and claims as set forth above. More particularly:

The specification has been reviewed and amended to address issues of clarity and to make consistent use of terminology and reference numbers, and the claims have been reviewed and amended to address issues of antecedence and definiteness.

Independent claim 1 has been further amended to recite that the system is adapted to monitor pulmonary artery pressure, the system comprises a hermetic sensor package adapted to be implanted into and configured to block a pulmonary artery of a patient, the package is formed from bonded layers of at least one of glass and silicon, and the package contains the sensing device. Support for the hermetic sensor package and

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materials can be found at page 8, second full paragraph, and support for the implantation into and blockage of a pulmonary can be found at page 11, last full paragraph, of Applicants' specification, as well as original claim 30.

Dependent claim 21 has been amended to recite the anchoring mechanism as being the diameter of the sensor package, as disclosed at page 11, last full paragraph, of Applicants' specification.

Dependent product claim 30 has been rewritten as a dependent method claim, and dependent product claims 2, 13, 17-19, and 31 have been rewritten as method claims that depend from claim 30. Support for the method covered by claim 30 can be found in Applicants' specification at the last full paragraph on page 11:

Finally, claims 11, 12, 15, 16, 22-27, and 29 have been canceled and claims 6, 7, 8, 9, 20 and have been amended for consistency with the above-noted amendments to their parent claim 1.

Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of remaining claims 1-10, 13, 14, 17-21, 28, and 30-33 are respectfully requested in view of the above amendments and the following remarks.

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Rejection under 35 USC §112, Second Paragraph

The rejection of claims 15 and 16 under 35 USC §112, second paragraph, has been rendered moot by their cancellation.

Rejection under 35 USC §101

The Examiner rejected remaining claims 21 and 30 as being directed to non-statutory subject matter, specifically, for positively claiming the human body. Applicants respectfully believe this rejection is overcome by the amendments to these claims, with claim 21 no longer reciting any part of the human body and claim 30 being rewritten as a method claim. As such, Applicants respectfully request withdrawal of the rejection under 35 USC §101.

Prior Art Rejections

Remaining claims 1-10, 13, 14, 17-21, 28, and 30-33 were rejected under 35 USC §102 and/or 103 in view of primary references U.S. Patent No. 6,636,769 to Govari et al. (Govari) and/or U.S. Patent No. 7,147,604 to Allen et al. (Allen) and/or U.S. Patent No. 6,442,413 to Silver, alone or in further view of U.S. Patent No. 5,417,717 to Salo et al. (Salo) or U.S. Patent No.

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5,662,712 to Pathak et al. (Pathak). Applicants respectfully request favorable reconsideration in view of the amendments to the claims and the following remarks.

Applicants' amended independent claim 1 requires that "a hermetic sensor package adapted to be implanted into and configured to block a pulmonary artery of a patient" and "formed from bonded layers of at least one of glass and silicon." Applicants believe the primary references (Govari, Allen, and Silver) do not disclose or suggest a sensor package with these limitations. In particular, the Govari's antennae coil 68, the placement of Silver's sensor 20 in a stent 14, and the pliability of the sensors 10, 20 and 30 disclosed by Allen as being capable of placement in an artery are all contrary to the requirement recited in Applicants' independent claim 1 for a sensor package adapted for implantation into and blocking a pulmonary artery. This limitation is based on original claim 30, which was rejected only on the basis of Allen, such that Allen is believed to be the only remaining reference of relevance.

The main requirement for Allen's sensors is that the sensors should be flexible in order to be rolled, bent, or folded into a cylindrical form for delivery via a catheter (column 4, lines 16-31). After delivery, the sensor must unroll or unfold automatically or by a forced method (i.e., using a shape

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memory alloy or thermal memory metal (column 6, lines 35-40, and column 7, lines 14-16). The only apparent way this is possible is by using polymers and flexible adhesive materials such as described at column 4, lines 24-29, and column 9, lines 12-24 and column 12, lines 61-67, and column 13, lines 1-13. After the sensor unrolls, Allen describes the sensor as being flat, which would be very difficult to lodge properly in a minor artery - a flat thin sensor is not adapted to block a cylindrical-shaped artery in such a manner that the sensing element faces the proper direction, and a flat sensor is not likely to be properly oriented because it doesn't fit the cylindrical shape of the artery. Therefore the technique disclosed by Allen at column 7, lines 40-48, is based on an anchoring technique completely unlike and inferior to the anchoring technique made possible by Applicants' sensor package.

Because Applicants' sensor package does not need to be folded or rolled up in order to be delivered via catheter, the sensor package can be predominantly made from rigid materials (glass and/or silicon). The rigidity of the sensor package allows its shape to be optimal (i.e., cylindrical, as shown in Figure 4) for implantation into a minor artery, where it can become wedged (i.e., a cylindrical-shaped sensor package wedged inside a cylindrical-shaped artery) without any additional anchoring mechanisms, and properly oriented so

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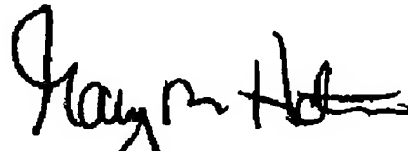
that its sensing element faces the direction of the pressure intended to be sensed.

Applicants believe the secondary references (Salo and Pathak) fail to address these deficiencies of the primary references.

In view of the above, Applicants respectfully request withdrawal of the rejections to the claims under 35 USC §102 and 103, and that their patent application be given favorable reconsideration.

Should the Examiner have any questions with respect to any matter now of record, Applicant's representative may be reached at (219) 462-4999.

Respectfully submitted,



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